10.1 Chemical-Specific ARARs

10.1.1 Federal Drinking Water Standards

Section 1412 of the Safe Drinking Water Act (SDWA), 42 U.S.C. S300g-1, "National Water Regulations"; National Primary Drinking Water Regulations, 40 CFR Part 141.

EPA has established Maximum Contaminant Levels (MCLs) (40 CFR Part 141) under the Safe Drinking Water Act (SDWA) to protect public health from contaminants that may be found in drinking water sources. These requirements are applicable at the tap for water provided directly to 25 or more people or which will be supplied to 15 or more service connections. The MCLs are applicable to any water that would be served as drinking water. Under NCP Section 300.430(f)(5), remedial actions must generally attain MCLs and non-zero Maximum Contaminant Level Goals (MCLGs) for remedial actions where the groundwater is currently or potentially a source of drinking water.

The Glendale North groundwater is a source of drinking water. However, since the Glendale North OU remedial action is an interim action, chemical-specific cleanup requirements for the aquifer such as attaining MCLs and non-zero MCLGs, which would be ARARs for a final remedy, are not ARARs for this interim action. (See 55 Fed. Reg. 8755.) Nevertheless, EPA has determined that for the treatment plant effluent from the Glendale North OU, the Federal Maximum Contaminant Levels (MCLs) for VOCs and any more stringent State of California MCLs for VOCs are relevant and appropriate and must be attained regardless of the end use or discharge method for the treated water.

For the treated and blended water which will be put into the public water supply, all applicable requirements for drinking water in existence at the time that the water is served will have to be met because EPA considers the blending facility and the serving of the water to the public (at the tap) to be off-site. Complying with all applicable requirements for drinking water at the tap will also require attainment of the MCL for nitrate prior to serving the water to the public. Since these are not ARARs, these requirements are not "frozen" as of the date of the ROD. Rather, they can change over time as new laws and regulations applicable to drinking water change. See 55 Fed. Reg. 8758 (March 8, 1990). Figure 10-1 provides a diagram of the treatment chain and blending process for the treated water prior to distribution of the treated and blended water to the public water supply for Alternatives 2 and 3.

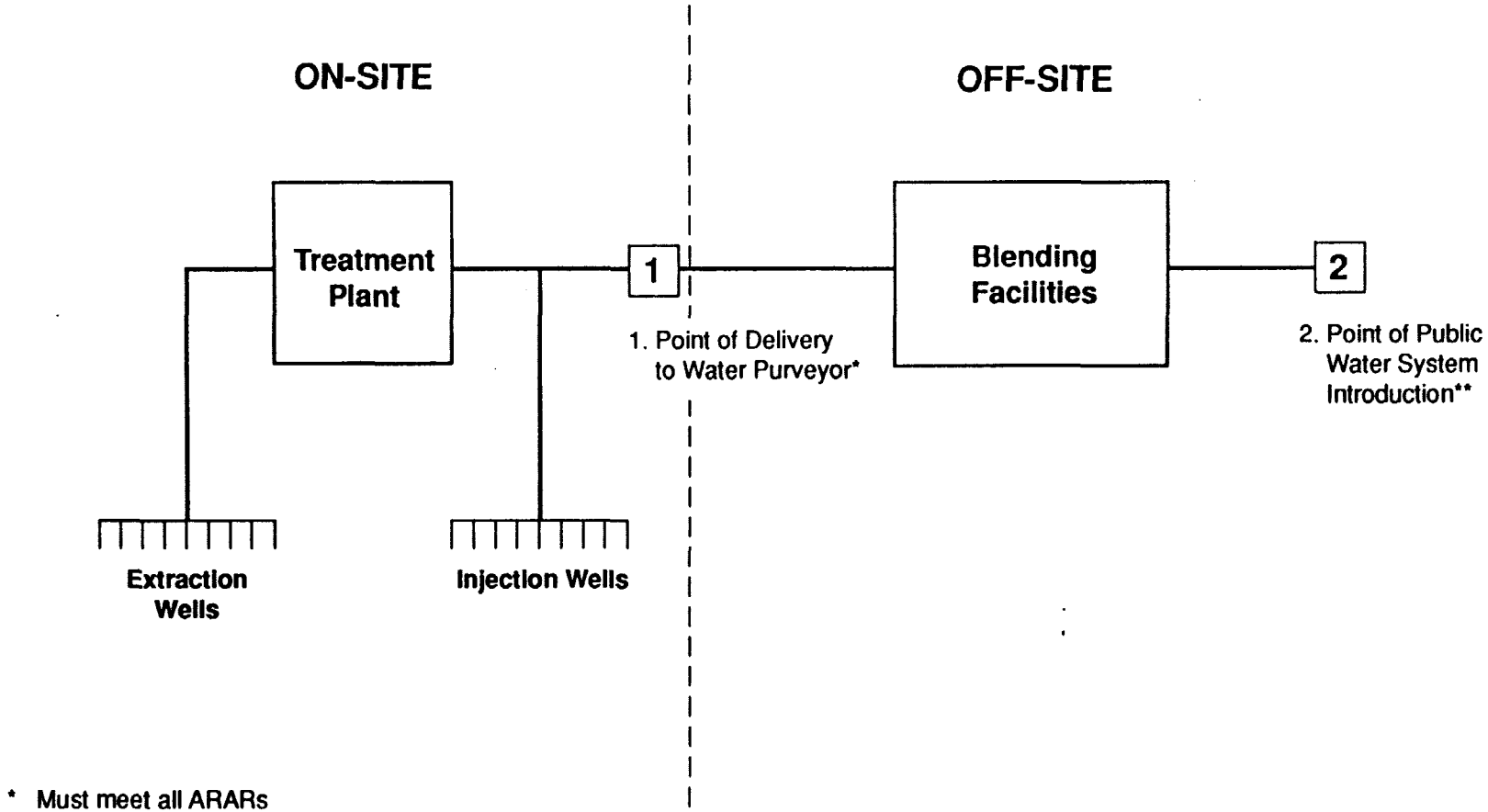

FIGURE 10-1: ON-SITE ARARS AND OFF-SITE LEGAL REQUIREMENTS FOR THE GLENDALE NORTH OU INTERIM REMEDY

10.1.2 State Drinking Water Standards

California Safe Drinking Water Act, Health and Safety Code, Division 5, Part 1, Chapter 7, §4010 et seq., California Domestic Water Quality Monitoring regulations, CCR Title 22, Division 4, Chapter 15, §64401 et seq.

California has also established drinking water standards for sources of public drinking water, under the California Safe Drinking Water Act of 1976, Health and Safety Code Sections 4010.1(b) and 4026(c). The State of California has promulgated MCLs for primary VOCs. Several of the State MCLs are more stringent than Federal MCLs. In these cases, EPA has determined that the more stringent State MCLs for VOCs are relevant and appropriate for the treatment plant effluent from the Glendale North OU interim remedy. The VOCs for which there are more stringent State standards include: benzene; carbon tetrachloride; 1,2-Dichloroethane (1,2-DCA); 1,1-Dichloroethene (1,1-DCE); cis-1,2-DCE; trans-1,2-DCE; and Xylene. There are also some chemicals where State MCLs exist but there are no Federal MCLs. EPA has determined that these state MCLs are relevant and appropriate for the treated water prior to discharge or delivery to the water purveyor. The VOCs for which there are no Federal MCLs but for which state MCLs exist include: 1,1-DCA; 1,1,2,2-tetrachloroethane; and 1,1,2-Trichloroethane.

In a letter to EPA dated June 2, 1992, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) stated that EPA should include a discussion regarding "future State MCLGs and the cumulative hazard index and how they will affect the use of treated groundwater as a drinking water source." Water served as drinking water is required to meet MCLs at the tap, not MCLGs. Therefore, EPA would generally not expect a future change in an MCLG to affect the use of treated groundwater as a drinking water source. The cumulative hazard index is also not an ARAR. However, EPA does retain the authority to require changes in the remedy if necessary to protect human health and the environment, including changes to previously selected ARARS. See 40 C.F.R. Sections 300.430(f)(1)(ii)(B)(1) and 300.430(f)(5)(iii)(C). If EPA receives new information indicating the remedy is not protective of public health and the environment, EPA would review the remedy and make any changes necessary to ensure protectiveness.

EPA has also determined that the monitoring requirements found in CCR Title 22 Sections 64421-64445.2 are relevant and appropriate for any treated water which will be delivered to the City of Glendale's Public Water distribution system. However, the selection of these sections as ARARs involves only the requirements that specific monitoring be performed. It would not include any administrative requirements (such as reporting requirements) and would also not include meeting substantive standards set within

these sections since no such standards have been identified by the State as being more stringent than Federal requirements. For the off-site portion of this remedy, including the treated water after blending, all applicable requirements would have to be satisfied including the monitoring requirements in CCR Title 22 Sections 64421-64445.2.

Accordingly, the chemical-specific standards for the groundwater extracted and treated under the Glendale North OU interim remedy are the current Federal or State MCLs for VOCs, whichever is more stringent.

10.2 Location-Specific ARARs

No special characteristics exist in the Glendale Study Area to warrant location-specific requirements. Therefore, EPA has determined that there are no location-specific ARARs for the Glendale North OU.

10.3 Action-Specific ARARs

10.3.1 Clean Air Act, 42 U.S.C. §7401 et seq.

Rules and Regulations of the South Coast Air Quality Management District

Glendale North OU treatment of VOCs by air stripping, whereby the volatiles are emitted to the atmosphere, triggers action-specific ARARs with respect to air quality.

The Clean Air Act regulates air emissions to protect human health and the environment, and is the enabling statute for air quality programs and standards. The substantive requirements of programs provided under the Clean Air Act are implemented primarily through Air Pollution Control Districts. The South Coast Air Quality Management District (SCAQMD) is the district regulating air quality in the San Fernando Valley.

The SCAQMD has adopted rules that limit air emissions of identified toxics and contaminants. The SCAQMD Regulation XIV, comprising Rules 1401, on new source review of carcinogenic air contaminants is applicable for the Glendale North OU. SCAQMD Rule 1401 also requires that best available control technology (T-BACT) be employed for new stationary operating equipment, so the cumulative carcinogenic impact from air toxics does not exceed the maximum individual cancer risk limit of ten in one million (1×10^{-5}). EPA has determined that this T-BACT rule is applicable for the Glendale North OU because compounds such as TCE and PCE are present in groundwater, and release of these compounds to the atmosphere may pose health risks exceeding SCAQMD requirements.

The substantive portions of SCAQMD Regulation XIII, comprising Rules 1301 through 1313, on new source review are also ARARs for the Glendale North OU.

The SCAQMD also has rules to limit the visible emissions from a point source (Rule 401), which prohibits discharge of material that is odorous or causes injury, nuisance or annoyance to the public (Rule 402), and limits down-wind particulate concentrations (Rule 403). EPA has determined that these rules are also ARARs for the Glendale North OU interim remedy.

10.3.2 Water Quality Standards for Reinjection and Discharges of Treated Water to Surface Waters or Land

Federal Standards

The Safe Drinking Water Act provides Federal authority over injection wells. The Federal Underground Injection Control Plan is codified in Part 144 of 40 C.F.R and prohibits injection wells such as those that would be located at the Site from (1) causing a violation of primary MCLs in the receiving waters and (2) adversely affecting the health of persons. 40 C.F.R. §144.12. Section 144.13 of the Federal Underground Injection Control Plan provides that contaminated ground water that has been treated may be reinjected into the formation from which it is withdrawn if such injection is conducted pursuant to a CERCLA cleanup and is approved by EPA. 40 C.F.R. §144.13. These regulations are applicable to any Glendale North OU treated water that is reinjected into the Glendale North groundwater.

The Resource Conservation and Recovery Act (RCRA) Section 3020 is also an action-specific ARAR. This section of RCRA provides that the ban on the disposal of hazardous waste into a formation which contains an underground source of drinking water (set forth in Section 3020(a)) shall not apply to the injection of contaminated groundwater into the aquifer if: (i) such injection is part of a response action under CERCLA; (ii) such contaminated groundwater is treated to substantially reduce hazardous constituents prior to such injection; and (iii) such response action will, upon completion, be sufficient to protect human health and the environment. RCRA Section 3020(b).

State Standards

For any reinjection to the basin, including spreading, or discharges to surface water that occur on-site, the reinjected or discharged water must meet all action-specific ARARs for such reinjection or discharge. The ARAR applicable to the recharged (Alternative 6) or reinjected (Alternative 5 or 7) water is:

- The Los Angeles Regional Water Quality Control Board's Water Quality Control Plan, which incorporates State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California." Resolution No. 68-16 requires maintenance of existing State water quality unless it is demonstrated that a change will benefit the people of California, will not unreasonably affect present or potential uses, and will not result in water quality less than that prescribed by other State policies.

EPA anticipates that there may be short-term discharges of treated water to the Los Angeles River during the initial operation of the VOC treatment plant and on certain other limited occasions. The ARAR for any treated water that is discharged, on a short term basis, to the Los Angeles River is the National Pollutant Discharge Elimination System (NPDES) Program which is implemented by the LARWQCB. In establishing effluent limitations for such discharges, the LARWQCB considers the Water Quality Control Plan for the Los Angeles River Basin (the "Basin Plan"), which incorporates Resolution 68-16, and the best available technology economically achievable (BAT). See, Cal. Water Code § 13263.

Since the RWQCB did not identify specific substantive discharge requirements or technology standards for such temporary discharges, EPA has reviewed the Basin Plan and considered BAT and has made certain determinations for the short-term discharges to the Los Angeles River. In order to comply with this ARAR, any treated groundwater that will be discharged, on a short-term basis, to the Los Angeles River on-site must be treated to meet Federal MCLs or State MCLs for VOCs, whichever is more stringent.

The treated water will also contain nitrate. The Basin Plan states that the level of nitrate shall not exceed 45 mg/l in water designated for use as domestic or municipal supply. According to the Basin Plan, the Los Angeles River is not designated for municipal or domestic water supply. Therefore, the 45 mg/l is not an ARAR for the short-term discharges associated with the Glendale North OU.

EPA has also considered what BAT could be for such short-term discharges. For on-site discharges, meeting the nitrate MCL through treatment by ion exchange would result in complex technical issues, such as disposal of waste brine, and would be very costly given the temporary nature of such discharges. Therefore, EPA has not identified ion exchange as the NPDES treatment standard for such short-term discharges.

EPA also considered the Mineral Quality Objective for the Los Angeles River of 36 mg/l (8 mg/l nitrate-N) established in the Basin Plan. Because the anticipated average concentration of

nitrate in the short-term discharge is likely to be close to the MCL, and any discharge would be short-term, there should not be any significant long-term effects on the mineral quality of the Los Angeles river associated with short-term discharges of VOC-treated water from the Glendale North OU.

It should also be noted that extractions of 3,000 gpm of groundwater per the Glendale North OU will result in decreased amounts of contaminated groundwater recharging to the Los Angeles River, thereby further protecting its beneficial uses.

Again, with respect to VOCs, any on-site discharge to the Los Angeles River must meet Federal MCLs or State MCLs for VOCs, whichever is more stringent. Since short-term discharges to the Los Angeles River would occur on-site, the procedural requirements for Federal National Pollution Discharge Elimination System (NPDES) as implemented in RWQCB Waste Discharge Requirements (WDRs) issued under Section 13263 of the California Water Code would not be ARARs.

10.3.3 Secondary Drinking Water Quality Standards

The State of California's Secondary Drinking Water Standards (SDWS) are ARARs for the Glendale North OU if the final use option involves serving treated groundwater as drinking water. 22 CCR §64471. The California SDWS are selected as ARARs because they are promulgated state standards and are relevant and appropriate to the action of supplying the treated water to a public water supplier. Although California SDWS are not applicable to non-public water system suppliers, the California SDWS are relevant and appropriate since the treated water under this action would be put into the City's drinking water system action. Since the Federal SDWS are not enforceable limits and are intended as guidelines, they are not ARARs for this action. Furthermore, since the State SDWS are more stringent than the Federal SDWS, EPA has not selected the Federal SDWS as requirements for this action. In summary, if the treated water is to be served as drinking water, the treated water prior at the point of delivery must meet the California SDWS. See Figure 10-1. If the treated water is reinjected or discharged to the river, the water will not be required to meet State SDWS.

10.3.4 Resource Conservation and Recovery Act (RCRA) and Hazardous Solid Waste Amendment (HSWA) Standards, 42 U.S.C. §§6901-6987.

RCRA, passed by Congress in 1976 and amended by the Hazardous and Solid Waste Amendments of 1984, contains several provisions that are ARARs for the Glendale North OU. The State of California has been authorized to enforce its own hazardous waste regulations (California Hazardous Waste Control Act) in lieu of the Federal RCRA Program administered by the EPA. Therefore, State regulations in the California Code of Regulations (CCR), Title 22, Division 4.5, Environmental Health Standards for the management of Hazardous

Wastes (hereinafter the State HWCL Regulations), are now cited as ARARs instead of the Federal RCRA Regulations.

Since the source of the contaminants in the groundwater is unclear, the contaminated groundwater is not a listed RCRA waste. However, the contaminants are sufficiently similar to RCRA wastes that EPA has determined that portions of the State's HWCL Regulations are relevant and appropriate. Specifically, the substantive requirements of the following general hazardous waste facility standards are relevant and appropriate to the VOC treatment plant for Alternatives 2 through 7: Section 66264.14 (security requirements), Section 66264.15 (location standards) and Section 66264.25 (precipitation standards).

In addition, the air stripper would qualify as a RCRA miscellaneous unit if the contaminated water constitutes RCRA hazardous waste. EPA has determined that the substantive requirements for miscellaneous units set forth in Sections 66264.601 - .603 and related substantive closure requirements set forth in 66264.111 - .115 are relevant and appropriate for the air stripper. The miscellaneous unit and related closure requirements are relevant and appropriate because the water is similar to RCRA hazardous waste, the air stripper appears to qualify as a miscellaneous unit, and the air stripper should be designed, operated, maintained and closed in a manner that will ensure the protection of human health or the environment.

The land disposal restrictions (LDR), 22 CCR Section 66268 are relevant and appropriate to discharges of contaminated groundwater to land. The remedial alternatives presented do not include land disposal of untreated groundwater. Because of the uncertainty in the levels of contamination and volumes of water to be derived from the development, purging and/or aquifer testing of monitoring and/or extraction wells at the Glendale North OU, these waters must be treated to meet Federal and State MCLs for VOCs, whichever is more stringent, prior to discharge to land.

The container storage requirements in 22 CCR Sections 66264.170 -.178 are relevant and appropriate for the storage of contaminated groundwater over 90 days.

On-site storage or disposal of the spent carbon from the treatment system could trigger the State HWCL requirements for storage and disposal if the spent carbon contains sufficient quantities of hazardous constituents that cause the spent carbon to be classified as a characteristic hazardous waste. If the spent carbon is determined to be a hazardous waste under HWCA, the requirements for handling such waste set forth in Sections 66262 and 66268 are applicable.

Certain other portions of the State's HWCL's regulations are considered to be relevant but not appropriate to the VOC treatment

plant. EPA has determined that the substantive requirements of Section 66264.15 (general inspection requirements), Section 66264.15 (personnel training) and Sections 66264.30-66264.56 (Preparedness and Prevention and Contingency Plan and Emergency Procedures) are relevant but not appropriate requirements for this treatment system. EPA has made this determination because the treatment plant will be required to have health and safety plans and operation and maintenance plans under CERCLA that are substantively equivalent to the requirements of Sections 66264.15, 66264.30-66264.56.

10.4 Summary of ARARs for the Glendale North OU Interim Remedy

EPA has determined a number of chemical-, and action-specific ARARs for the Glendale North OU interim remedy. All of the alternatives that involve groundwater extraction and treatment could achieve the chemical-specific treatment standards for the groundwater at the point of delivery (See Figure 10-1). However, Alternative 3 which uses perozone is a less certain technology than air stripping or liquid-phase GAC adsorption for such a large volume of water and therefore is somewhat less likely to achieve the chemical-specific ARARs.

11.0 THE SELECTED REMEDY

Based upon consideration of the requirements of CERCLA, the detailed analysis of the alternatives, and public comments, EPA has determined that Alternative 2: Extraction, Treatment of VOCs by air stripping (either single- or dual-stage) or liquid phase GAC, Blending to meet the nitrate standard and Conveyance to a public water distribution system, in combination with Alternative 7 (as a contingency): Extraction, Treatment of VOCs, and Reinjection, is the most appropriate interim remedy for the Glendale North OU.

Alternative 2 includes the extraction of 3,000 gpm of contaminated groundwater for 12 years. The extraction wells will be new and will be located to inhibit most effectively the migration of the contaminant plume while maximizing the extraction of the most contaminated groundwater. The most contaminated groundwater is located in the upper or shallowest zone of the aquifer. Various locations and scenarios for extraction wells and rates of extraction are proposed in the FS report for the Glendale North OU; however, all design decisions for this interim remedy will be made during the remedial design phase. During the remedial design phase one of the locations proposed for extraction wells and scenarios for rates of extraction per individual well may be selected or new ones may be selected.

The extracted groundwater will be filtered to remove any suspended solids, if necessary, and then treated for VOCs using dual-stage or single-stage air stripping with vapor-phase GAC adsorption for emissions control or liquid phase GAC may also be

used. Whether air-stripping (dual versus single) or liquid phase GAC will be used will be determined during remedial design as will the exact location for the treatment plant (note that four possible locations were proposed in the FS report). If air-stripping is used for VOC treatment, the air stream will be treated using a vapor-phase GAC adsorption system to ensure that air emissions meet Federal air quality standards as regulated by the South Coast Air Quality Management District and described in the ARARs section of this ROD.

After the extracted groundwater is treated for VOCs, the treated water exiting the treatment plant shall meet all MCLs and secondary drinking water standards with the exception of nitrate. The VOC-treated water will then be blended with water which does not contain nitrate in excess of the nitrate MCL to reduce nitrate levels to meet the nitrate MCL. The treated and blended water to be delivered to a public drinking water supply shall meet all legal requirements. The water will then be conveyed to the City of Glendale and/or another municipality for distribution through the public water supply system.

As a result of comments by the City of Glendale on the Glendale North OU Proposed Plan (July 1992) and Glendale South OU Proposed Plan (September 1992) which indicated that the City had sufficient water credits to accept the treated water from both of these OUs, and in order to decrease overall costs associated with the OUs, EPA has determined that the treatment plants for the Glendale North and Glendale South OUs will be combined. The total 5,000 gpm of treated water will be conveyed to the City of Glendale for distribution to its public water supply system. The exact configuration of the combined treatment plant will be determined during the remedial design phase of the project. The Glendale South OU Record of Decision will also reflect this decision to combine the treatment plants.

However, if the City of Glendale does not agree to accept the treated water from both OUs (possibly due to water supply needs) or if EPA determines that combining the treatment plants will significantly delay or hinder the implementation of the Glendale North OU, the treatment plants will not be combined.

EPA has selected Alternative 7, reinjection of the treated water, as a contingency if the City of Glendale or another San Fernando Valley water purveyor does not accept any or all of the treated water. As a result, any remaining portion of water not accepted by the City of Glendale will be: first, offered to another San Fernando Valley water purveyor or second, reinjected into the aquifer, per Alternative 7.

With the exception of blending to meet the nitrate MCL and final use of the treated water, Alternative 7 is identical to Alternative 2 above.

After the extracted groundwater is treated for VOCs, the treated water exiting the treatment plant shall meet all MCLs for VOCs but will not need to meet secondary drinking water standards. with the exception of nitrate. The VOC-treated water will then be reinjected into the aquifer. To comply with ARARs, nitrate concentrations in the water to be reinjected will have to be similar to or lower than the levels of nitrate in the area of the aquifer where the reinjection will occur.

Reinjection wells will be new wells and will be located such that the effectiveness of inhibition of further downgradient groundwater contamination migration and contaminant mass removal from the aquifer are optimized, to the maximum extent practicable. Locations and injection rates for injection wells are proposed in the FS report for the Glendale North OU, however, all design decisions for this interim remedy will be made during the remedial design phase. During the remedial design phase one of the locations proposed for reinjection wells may be selected or new ones may be selected.

Existing production wells that may provide pathways for vertical migration of contamination will be abandoned or rehabilitated, if required. While the Glendale North OU FS report proposed several production wells be abandoned or rehabilitated, these are only proposals. Again, final determinations regarding which production wells will be abandoned and/or rehabilitated, if any, will be made during remedial design.

Alternative 7 production well abandonment and/or rehabilitation and monitoring well requirements are identical to those discussed above for Alternative 2.

Groundwater monitoring wells shall be installed to evaluate the effectiveness of the Alternative 7 interim remedial action for the Glendale North OU. More specifically, groundwater monitoring will be conducted no less frequently than quarterly to: 1) evaluate influent and effluent water quality, 2) determine and evaluate the capture zone of the extraction wells, 3) evaluate the vertical and lateral (including downgradient) migration of contaminants, 4) to evaluate the effectiveness of the reinjection well system and its impact on the remedy and 5) to monitor any other factors associated with the effectiveness of the Alternative 7 interim remedy determined to be necessary during remedial design. Once the Glendale North OU remedial action has been operating for six years, monitoring frequency may be decreased to less than quarterly if conditions warrant.

The VOC treatment plant of the Glendale North OU interim remedy (whether it be Alternative 2, Alternative 7 or a combination thereof) shall be designed and operated so as to prevent the unknowing entry, and minimize the possible effect of unauthorized entry, of persons or livestock into the active portion of the

facility. One means of preventing unauthorized entry would be to erect a perimeter fence around the VOC treatment plant. This fence should be in place prior to initiation of the remedial action and should remain in place throughout the duration of the remedy. The VOC treatment plant shall also be designed and operated so as to prevent releases of contaminated groundwater from the plant.

The selected remedy for the Glendale North OU meets all of EPA's nine evaluation criteria. The selected remedy is equally effective as the other alternatives in the short-term and long term reduction of risk to human health and the environment by removing contaminants from the upper zone of the aquifer, by inhibiting further downgradient and vertical migration of the contaminant plume, and by reducing the toxicity, mobility, and volume of contaminants in the aquifer.

The selected remedy is estimated to remove approximately 82% (Alternative 2) to 89% (Alternative 7) of the total estimated initial TCE mass after 12 years of extraction, and may reduce the maximum TCE concentration remaining in the upper zone of the aquifer by 88% or more. Thus, at the end of the 12 year interim remedy, the maximum TCE concentration remaining in the upper zone of the aquifer would be approximately 250 ug/l. The selected remedy is estimated to significantly inhibit downgradient migration of contaminated groundwater as well as vertical migration from the upper to the lower zone of the aquifer. Vertical migration will be further curtailed with the rehabilitation and/or abandonment of inactive production wells screened in both the upper and lower zones. Furthermore, the modeling conducted as part of the FS indicated that the 3000 gpm extraction rate of the selected remedy would be effective in inhibiting the discharge of contaminated groundwater to the Los Angeles River by reducing groundwater levels to below river bottom elevations.

The VOC treatment technologies selected (dual- or single-stage air stripping with vapor phase GAC or liquid phase GAC) are technically feasible and proven effective at meeting ARARs for VOCs in the treated groundwater.

Alternative 2, in combination with alternative 7, could be implemented, both technically and administratively. Other alternatives which dispose of the water by spreading at the Headworks Spreading Grounds may not be implementable because Headworks is widely used and may not be available.

In a letter dated March 29, 1993, the State expressed agreement with EPA's selected remedy. EPA received several public comments during the sixty day public comment, the majority of which expressed support for Alternative 2, primarily because this alternative provides the treated water to a drinking water purveyor. EPA's preferred alternative. These comments, along with

EPA's responses are presented in Part III of this ROD, the Responsiveness Summary.

The selected remedy is protective of human health and the environment, meets ARARs, and unlike some other alternatives such as Alternative 4 which includes discharge of the treated water to the Los Angeles River, provides beneficial uses (distribution to a public water supply and/or reinjection) for the treated water. The selected remedy is cost-effective. The estimated cost of Alternative 2 has a total present worth of $36,400,000, which is in the middle of the range for all seven alternatives and this cost would be significantly reduced by combining the treatment plants for the OUs (based on a total cost savings of up to $13.8 million for both OUs). The estimated total cost of Alternative 7 is $38,700,000, which is higher than Alternative 2 but significantly less than Alternative 5, the most expensive alternative proposed. As discussed in Section 10 (ARARs), Alternative 5 exceeds the chemical-specific ARARs because it involves treatment of nitrate by ion exchange.

12.0 STATUTORY DETERMINATIONS

As required under Section 121 of CERCLA, the selected interim remedial action is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the interim remedial action, and is cost effective. The selected remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable and satisfies the statutory preference for remedies that employ treatment to reduce toxicity, mobility, and volume as a principal element.

The selected interim remedial action is protective of human health and the environment in that it removes a significant VOC contaminant mass from the upper zones of the aquifer and inhibits further downgradient and vertical migration of contaminated groundwater.

The VOC treatment technologies selected (dual- or single-stage air stripping with vapor phase GAC or liquid phase GAC) are technically feasible and proven effective at meeting ARARs for VOCs in the treated groundwater and the air.

The selected remedy permanently and significantly reduces the toxicity, mobility, and volume of hazardous substances in the aquifer as well as the extracted groundwater.

Because this remedy will result in hazardous substances remaining on-site above health-based levels, EPA shall conduct a review, pursuant to CERCLA Section 121, 42 U.S.C. Section 9621, at least once every five years after commencement of remedial action

to ensure that the remedy continues to provide adequate protection of human health and the environment.

13.0 DOCUMENTATION OF SIGNIFICANT CHANGES

The only significant change to the Glendale North OU interim remedy proposed in the Proposed Plan fact sheet dated July 1992 involves the volume of water to be conveyed to the City of Glendale.

As a result of oral comments at the Glendlae North OU Proposed Plan public meeting as well as written comments by the City of Glendale on the Glendale North OU Proposed Plan (July 1992) and Glendale South OU Proposed Plan (September 1992) which indicated that the City had sufficient water credits to accept the treated water from both the Glendale North and Glendale South OUs, and in order to decrease overall costs associated with the OUs, EPA has determined that the treatment plants for the Glendale North and Glendale South OUs will be combined. The total 5,000 gpm of treated water will be conveyed to the City of Glendale for distribution to its public water supply system. The exact configuration of the combined treatment plant will be determined during the remedial design phase of the project. The Glendale South OU Record of Decision will also reflect this decision to combine the treatment plants.

However, if the City of Glendale does not agree to accept the treated water from both OUs (possibly due to water supply needs) or if EPA determines that combining the treatment plants will significantly delay or hinder the implementation of the Glendale North OU, the treatment plants will not be combined and only the extracted treated water from the Glendale North OU will be conveyed to the City of Glendale for distribution to its public water supply system. As a further contingency, if the City of Glendale does not accept any or all of the treated water, any remaining portion of water will be 1) offered to another San Fernando Valley water purveyor or 2) reinjected/recharged into the aquifer.

The impact of this change is that an additional 2,000 gpm of treated water would be provided to the City. In its comments to EPA on both the Glendale North and South OU Proposed Plans, the City indicated that it would be able to accept the additional treated water. The cost of construction and operation and maintenance of the combined treatment plant is expected to be less than the cost of construction and operation and maintenance of individual treatment plants. Recent EPA cost estimates indicate that as much as $13,888,000 would be saved on the total present worth cost by combining the two treatment plants.